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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/064,085

06/10/2002

Steinar Bjaerum

15-DS-00564

7101

23446

7590

08/27/2003

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EXAMINER

JAIN, RUBY

ART UNIT

PAPER NUMBER

3737

DATE MAILED: 08/27/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/064,085

Applicant(s)

BJAERUM ET AL.

Examiner

Ruby Jain

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Inventorship

1. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7, 10-17, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Jackson et al. U.S. Patent No. 6,527,717.

Regarding claims 1, 2, 11, and 12, Jackson discloses accurate tissue motion systems and methods. Movement of tissue is determined by correlating speckle or a

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feature represented by two different sets of ultrasound data obtained at different times. Additional aspects include tracking the location of a tissue of interest. Ultrasound data associated with different positions relative to the transducer are selected as a function of the tracking and used to determine the characteristic of strain. Motion estimates are generated with data from an intra-cardiac transducer array. The intra-cardiac transducer provides accurate motion analysis based on imaging from within the heart (abstract). The system includes a transmit beamformer, a transducer, a motion sensor, a receive beamformer, a motion processor, a scan converter, a display, and a controller or strain processor. Fewer or additional components may be included, such as a three-dimensional processor (column 3, lines 5-13).

Regarding claims 3 and 13, Jackson discloses wherein the displacement represents one of distance moved by the moving structure (column 10, lines 24-36).

Regarding claims 4-6 and 14-16, Jackson discloses wherein the first pattern of indicia comprises a set of lines, wherein the lines comprise of dashed and equidistant lines (Figures 3A and 3B).

Regarding claims 7 and 17, Jackson discloses wherein the processor generates the parameter signals by summing a set of signal values representing mean velocities of the moving structure over a portion of the time period (column 8, line 54 -- column 9, line 21).

Regarding claims 10 and 20, Jackson discloses wherein the image is one of a B-mode image (column 3, line 66 -- column 4, line 30).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 9, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jackson, as applied to claims 1 and 11 above.

Regarding claims 8 and 18, Jackson discloses wherein the portion of the cardiac cycle is selected from a timing event signal comprising one of an ECG signal (column 11, lines 2-12). Jackson further discloses wherein the R-wave of the heart cycle is determined. Jackson does not disclose wherein the time period comprises at least a portion of a cardiac cycle comprising one of systole, diastole, IVC, IVR, E-wave, or A-wave. However, since Jackson is analyzing various portions of the heart cycle, it would be obvious to disclose a portion of a cardiac cycle comprising an E-wave, A-wave, etc.

Regarding claims 9 and 19, Jackson discloses wherein the portion of the cardiac cycle is selected from a timing event signal comprising one of an ECG signal (column 11, lines 2-12).

Conclusion

Although, Examiner has referred applicant to specific sections of the reference in light of the rejection, Applicant is urged to read the entire reference, as the entire reference is used to reject Applicant's claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ruby Jain whose telephone number is (703) 605-4250. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dennis Ruhl can be reached on (703) 308-2262. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0858.

RJ 
August 21, 2003


DENNIS RUHL
PRIMARY EXAMINER